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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/875,464

06/05/2001

Ping Tak Peter Tang

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03/23/2006

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EXAMINER

DO, CHAT C

ART UNIT

PAPER NUMBER

2193

DATE MAILED: 03/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/875,464

Applicant(s)

PETER TANG, PING TAK

Examiner

Chat C. Do

Art Unit

2193

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 July 2005 and 12 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14, 16-24 and 27-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14, 16-24 and 27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10/12/05; 7/18/05</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This communication is responsive to Amendment filed 07/18/2005.
2. Claims 1-14, 16-24, and 27-32 are pending in this application. Claims 1, 12, 23, 30, and 32 are independent claims. In Amendment, claims 14 and 25-26 are cancelled and claims 31-32 are added. This Office action is made non-final after a RCE filed 10/21/2005.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claims 12-14, 16-24, and 27-29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Re claim 12, the term "can be" in line 2 is a relative term which renders the claim indefinite. The term "can be" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. For examination purposes, the examiner considers the term "can be" as "is". Claim 23 has the same rejection.

Thus, claims 13-14, 16-22, 24, and 27-29 are also rejected for being dependent on the rejected base claims 12 and 23 respectively.

Claim Rejections - 35 USC § 101

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. Claims 1-14, 16-24, and 27-32 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 1-14, 16-24, and 27-32 recite a method, article and system respectively for approximating a logarithm function according to a mathematical algorithm. In order to a method, article, and system claims to be statutory, claims must be either include a practical physical application or a useful, concrete, and tangible result. However, these method, article and system claims do not disclose either a practical application to a useful end or a tangible result. Therefore, claims 1-14, 16-24, and 27-32 are directed to non-statutory subject matter.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1 and 12-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Shane et al. ("New Algorithms for Improved Transcendental Functions on IA-64").

Re claim 1, Shane et al. disclose in pages 4-7 a computer-implemented method for approximating a general base logarithm function of an input argument (e.g. abstract

and page 5 left column section 2), comprising: selecting one of a plurality of breakpoints, such that a reduced argument for the function is less than a predetermined value (e.g. right column page 6); and evaluating an approximate function of the reduced argument, including accessing a look-up table based on the selected breakpoint to obtain a value of a term in the approximate function (e.g. section 2.1 in page 5), wherein the look-up table has at least one breakpoint for which the reduced argument is computed without roundoff error when the input argument is close to a root of the function (e.g. section 2.2 in pages 5-6).

Re claim 12, it is an article claim of claim 1. Thus, claim 12 is also rejected under the same rationale as cited in the rejection of rejected claim 1. Further, Shane et al. disclose in pages 4-7 X is in the floating point form $Y \cdot G_k$ where Y is between 1 and 2 and G is a positive integer larger than Y , and wherein the look-up table is such that breakpoint $B_a=1$ and breakpoint $B_x = \frac{1}{2}$ (e.g. page 6).

Re claim 13, Shane et al. further disclose in pages 4-7 the function is $\log(X)$ (e.g. page 5 left column section 2).

Response to Amendment

9. The amendment filed 07/18/2005 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows:

Art Unit: 2193

The limitations “the predetermined value is proportional to $1/(2*N)$ ” and

“ $K*L_{hi}+T_{j,hi}$ can be.... $T_{N,lo}=L_{lo}$.” in claim 23.

Applicant is required to cancel the new matter or point out clearly the support in original specification in the reply to this Office Action.

Response to Arguments

10. Applicant's arguments with respect to claims 1-14, 16-24, and 27-32 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chat C. Do whose telephone number is (571) 272-3721. The examiner can normally be reached on M => F from 7:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chaki Kakali can be reached on (571) 272-3719. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

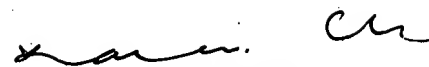
Application/Control Number: 09/875,464

Page 6

Art Unit: 2193

Chat C. Do
Examiner
Art Unit 2193

March 14, 2006


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